

K e s h a v a P R A S A D H a l e m a n e

National Institute of Technology Karnataka Surathkal

1. **Name in full (in BLOCK letters):**

KESHAVA PRASAD HALEMANE.

2. (a) **Parents:**

(Late) Sri H. Shama Bhat, & Smt. Thirumaleshwari H.

(b) **Family Status:**

Living with Mother, Wife & 3 Children.



3. **Present Postal Address (in BLOCK letters):**

P-11, N.I.T.K CAMPUS,
SRINIVASNAGAR - SURATHKAL,
MANGALORE-575025,
KARNATAKA STATE, INDIA.

4. **Contact:** email: k.prasad.h@gmail.com
Telephone: +919481022946 (cell)

5. **Nationality:** Indian.

6. (a) **Date of Birth:** 02-January-1952. (b) **Age:** 64 years.

7. **Educational Qualifications:**

Ph.D.	Feb' 79-Feb' 82 CGPA: 4.00 / 4.00	Carnegie-Mellon University, Pittsburgh, PA-15213, USA. Design Research Center / Chemical Engineering. Department. "Studies on the Optimal Design of Flexible Chemical Plants"; <i>Advisor: Prof. Ignacio E. Grossmann.</i>
M.S.	Jan' 78-Jan' 79 CGPA: 4.00 / 4.00	Carnegie-Mellon University, Pittsburgh, PA-15213, USA. Chemical Engineering Department. "Catalytic Synthesis of Light Olefins from CO+H ₂ Feed over Cobalt-based Catalysts".
. . .	Jul' 72-Aug' 73 CGPA: 8.63 / 10.0	Indian Institute of Technology, Madras, India. (for M.Tech.) Chemical Engineering Department.
B.E.	Jun' 67-Apr' 72 90.3% marks FIRST-RANK	Karnataka Regional Engineering College Surathkal. Chemical Engineering Department. Karnataka State GOLD-MEDAL Awardee
PUC	Jun' 66-Apr' 67 79.4% marks	St. Aloysius College, Mangalore. Karnataka State PUC Board.
SSLC-Apr' 66 74.4% marks	Padua High School, Mangalore. Karnataka State SSLC Board.

8. **LinkedIn Website Reference:** <http://in.linkedin.com/in/keshavaprasadahalemane>

9. *Fields/Areas of Study/Interest:*

*Optimization under Uncertainty; Computational Systems Science & Engineering;
Systems Studies - Modeling; Analysis; Design; Simulation; Control; Optimization;
Science of decision making;*

10. *Employment Details:*

*** (Aug-1991 to present):**

Professor of Systems Analysis and Computer Applications,
Department of Mathematical And Computational Sciences,
National Institute of Technology Karnataka Surathkal,
Teaching Post-Graduate Programmes - M.Tech(SACA).
HoD (3-year rotational term) 01-Jan-1999 to 01-Jan-2002;
Chief Warden, NITKS Hostels 14-Aug-2003 to 03-Mar-2004;
Dean(Academic) & Chairman-BOS 30-Jan-2004 to 31-Mar-2005;
Dean(Academic) & Chairman-BOS 18-May-2005 to 01-Feb-2008;
Chairman of the committee that framed the set of Vision & Mission
Statements for NITK Surathkal.
Member, NITK BOG & NITK Finance-Committee 13-Dec-2005 to 12-Dec-2006;
Division Chairperson (BSHSSMS Division, NITK) 01-Jan-2009 to 2013.
Chairman, NITK Employees Grievance Redressal Committee: from 01-08-2011
to 30-01-2013.

*** (Nov-1989 to Jul-1990):**

Scientist, Centre for AI & Robotics, DRDO, Bangalore.
Software Engineering Research and Development work.

*** (Jul-1986 to Sep-1989):**

Asst. Professor, Univ. of Maryland, College Park, USA.
Joint appointment with the Systems Research Center, and the
Chemical and Nuclear Engineering Department.
Teaching and Research : Computational Systems Studies in
Process Systems Engineering.

*** (Apr-1984 to Aug-1986):**

Member of Technical Staff, AT&T Bell Labs, USA.
International Planning Department and Advanced
Decision Support Systems Department.
Leading R & D and Project Management work in : OR applications in
Communications System Modeling; Optimization; Development of Algorithms
and Software for Communication Network Planning Studies;
Multiple One-Optimum Solutions (MOOS) Heuristics;
Objectives & Resources Constrained Modernization Planning (ORCOMP) as the
Optimization Strategy for the Switching Network Evolution Planning (SNEP)
Studies; Advanced Decision Support Systems Software Engg Project.

*** (Mar-1982 to Apr-1984):**

Senior Research Engineer, Westinghouse R & D Center, USA.
Advanced Process Systems Engineering Department, and
Mathematical & Statistical Sciences Department.
Leading R & D and Project Management work in :
Computer Aided Systems Simulation and Optimization Studies on Power
Generation Systems based on Coal Gasification Technology and in the
Nuclear Fuels Division; Systems Analysis in the Space Power Generation
Applications; Distributed Data Base Systems Studies;
Computer Modeling and Simulation in Systems Reliability Studies.

*** (Jan-1978 to Feb-1982):**

Graduate Research Scholar, Carnegie-Mellon Univ, USA.
Design Research Center / Chemical Engineering Department.
Formulated a new and efficient computational strategy for the problem of Optimum Design of Flexible Chemical Processing Systems, that accounts for the Uncertainties in Parameter Values;
Developed efficient Decomposition Scheme for solving Large Scale Nonlinear Programming Problems with Block-Diagonal structure in the constraints that arise in general Engineering Systems Design. *Received M.S./Ph.D. in 1979/1982.*

*** (Aug-1973 to Dec-1977):**

Process Engineer, Mangalore Chemicals & Fertilizers Ltd.
Project Engineering of the 660 MTPD Ammonia Plant, during the Erection, Commissioning, Stabilization, Operation and Trouble-Shooting; Performance Evaluation and Cost Control Studies; Training of Process Operators.

11. Publications (and documented original R & D work):

* <http://archive.org/search.php?query=keshava%20prasad%20halemane>

* Book: "APES-USA : Academic Performance Evaluation of Students - Ubiquitous System Analyzed : Letter Grading System is inherently Unfair by its very Design and requires a complete re-design : The Problem is not Grade Inflation".

CreateSpace Publishing (Amazon.com) USA; 2012;

Partridge (A Division of *Penguin Random House*) India; 2014;

<https://wwwcreatespace.com/4025134/>; <https://wwwcreatespace.com/4011032/>

<http://www.partridgepublishing.com/india>; <http://www.apes-usa-522254-partridge.com/>

<http://apes-usa.blogspot.in/>

The mathematical fallacy that seems to have been mysteriously implied in the very design of the letter grading system has been very well exposed and resolved [using a novel concept - 'SQUIDS' - *Scale Quantum Unit Interval Domain Size*] by a proposal for an entirely new system design. This has the potential to bring about an epoch making impact on all kinds of assessments or evaluations in general, and in the academic performance evaluation of students in particular.

* "Studies in the Optimal Design of Flexible Chemical Plants";

Ph.D. Thesis - Carnegie Mellon University - 24feb1982.

https://archive.org/details/KpH_PhD_Studies-in-the-Optimal-Design-of-Flexible-Chemical-Plants_24feb1982_CMU

(more than **300** downloads)

* Halemane, K.P. and Grossmann, I.E.

"Optimal Process Design Under Uncertainty";

AIChE 1981 Annual Meeting in New Orleans.

AIChE J., Vol.29, No.3, pp.425-433, May-1983.

(a classic - more than 324 citations since its publication)

<http://scholar.google.co.in/citations?user=CzDpUXoAAAAJ>

* Keshava PRASAD Halemane, Muthuvel I. Murugan, Suresh Pareth

"Symmetric Primal Dual Simplex Pivoting Strategy (**spdspds**) for Linear Programming";

N.I.T.K. Research Bulletin, Vol.20, No.1, pp.62-80, Jul-2011.

spdspds is a precursor to a future epochal breakthrough in LP Technology.
<http://arxiv.org/ftp/arxiv/papers/1405/1405.6902.pdf>

- * "A Novel Methodology for Faculty Performance Evaluation to Encourage Individual Excellence": implemented(2011)NITK-Surathkal. Document available on request.
- * A Precise and Concise definition of a "System";
http://archive.org/details/SYSTEM-defined_KpH19aug2009
- * "Systems Study" - an invited Theme Talk presentation;
http://archive.org/details/Systems18Study-KpH_2009aug19
- * Muthuvel I. Murugan and Keshava PRASAD Halemane
"Software to Convert Raw-Scores to Letter-Grades";
widely used by the faculty community in NITK and acclaimed to be very flexible and user friendly; 2005.
http://oldsite.nitk.ac.in/docs/academic/LGS/MIM-KpH_RS2LG.pdf
- * "Letter Grading System based on Class Performance Distribution in the context of Credit-based Curriculum";
Presentation in the TEQIP-sponsored one-day National Workshop on Letter Grading in the Credit-based System, held in NITK-Surathkal, 12-Nov-2005.
- * "Vision-20/20-NITK" presentation on 06-Aug-2004, at NITK-Surathkal.
http://oldsite.nitk.ac.in/images/pdf/kph_v.pdf
- * Halemane K.P. and Bhat R.B.,
"Quantitative and Qualitative Evaluation of Student Performance",
CSME International Conference on Future of Engineering Education,
CSME-ICFEE, Feb 16-18, 2003; Concordia Univ. Montreal, Canada.
- * "Student Academic Performance Evaluation System (SAPES)";
RFC-2002-11-18-KpH : Circulated among NITK Faculty; 2002.
<http://archive.org/details/SAPES-StudentsAcademicPerformanceEvaluationSystem-SAPES-010203>
- * "Symmetric Primal Dual Simplex Algorithm for Linear Programming";
KREC Research Bulletin, Vol.9, No.1, pp.16-26, Jun-2000.
The original conceptual seed ideas for **spdspds** was presented here.
<http://archive.org/details/SPDSA4LP-SymmetricPrimalDualSimplexAlgorithmForLinearProgramming-SPDSALP4>
- * "System Study of a Procedure Designed to Finalize the Marks in the Re-Valuation of University Examination Papers"; 1997.
<http://archive.org/details/SystemStudyofProcedureDesigned2FinalizeMarksinReValofUnivExamPapers24Dec1997KREC>
- * "An Efficient Computational Scheme for a System Model described by a Large Number of Nonlinear Algebraic Equations"
KREC Research Bulletin, Vol.1, No.2, pp.16-21, Dec-1992.
- * "An Efficient Decomposition Technique for Multi-Period Optimum Design";

K e s h a v a P R A S A D H a l e m a n e


National Institute of Technology Karnataka Surathkal

Paper No:1202, pp. 19-24; Proc. of Natl. Sympo. on Optimization Techniques & Applications;
Thiagarajar College of Engg, Madurai, India; 02-03 July, 1992.

- * *Several Technical Project Reports of Proprietary nature*, documented as company proprietary literature in AT&T Bell Labs, Holmdel, NJ, USA; (1984-86) as well as in Westinghouse R & D Center, Pittsburgh, PA, USA (1982-84).
- * "Studies in the Optimum Design of Flexible Chemical Plants"; PhD Thesis; Design Research Center, Carnegie-Mellon Univ. 1982.
http://archive.org/details/KpH_PhD_Studies-in-the-Optimal-Design-of-Flexible-Chemical-Plants_24feb1982_CMU
- * Grossmann, I.E., Halemane, K.P. and Swaney, R.E.
"Optimization Strategies for Flexible Chemical Processes", International Symposium on Process Systems Engineering; Kyoto, Japan, August 23-27, 1982.
Computers and Chem. Engg., Vol.7, No.4, pp.439-462, 1983.
- * Grossmann, I.E. and Halemane, K.P.
"A Decomposition Strategy for Designing Flexible Chemical Plants"; AIChE 1980 Annual Meeting in Chicago.
AIChE J., Vol.28, No.4, pp.686-694, Jul-1982.
- * Halemane, K.P. and Grossmann, I.E.
"A Remark on the paper 'Theoretical and Computational Aspects of the Optimal Design Centering, Tolerencing and Tuning Problem'"; IEEE Trans. on Circuits and Systems, Vol.CAS-28, No.2, pp.163-164, Feb-1981.
- * Halemane, K.P. and Grossmann, I.E.
"Selection of Decision and Torn Variables in Process Design Computations"; Proceedings of the 1981 Summer Computer Simulation Conference, Washington, D.C., pp.230-234, 1981.
- * Grossmann, I.E., Halemane, K.P. and Kortanek, K.O.
"Optimum Design of Flexible Chemical Plants"; International Symposium on Semi-Infinite Programming and Applications, The University of Texas at Austin, Sep-1981.
- * "Two Metaphorical Views on LIFE";
http://archive.org/details/Life_2Metaphors
- * "KPH-Calendar : Permanent Calendar on a Single Page"; Designed in 1966, when I was a X-Std Student.
<http://archive.org/details/KpH-Calendar>

12. Google Scholar - Citations Analysis:

(a) <http://scholar.google.com/citations?user=CzDpUXoAAAAJ>



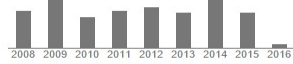
Keshava PRASAD Halemane
 Professor, N. I. T. K. Surathkal, India.
 Optimization
 Email at nitk.ac.in pending verification. Why? - Homepage
 My profile is private - Make it public

[Change photo](#)

[Edit](#) [Follow](#)

Citation indices

	All	Since 2011
Citations	538	131
h-index	4	3
i10-index	3	3



Co-authors [Edit...](#)
No co-authors

<input type="checkbox"/>	Title	+	Add	More	1-15	Cited by	Year
<input type="checkbox"/>	Optimal process design under uncertainty KP Halemane, IE Grossmann AIChE Journal 29 (3), 425-433					324	1983
<input type="checkbox"/>	Optimization strategies for flexible chemical processes IE Grossmann, KP Halemane, RE Swaney Computers & Chemical Engineering 7 (4), 439-462					148	1983
<input type="checkbox"/>	A decomposition strategy for designing flexible chemical plants IE Grossmann, KP Halemane					55	1981
<input type="checkbox"/>	A remark on the paper 'Theoretical and computational aspects of the optimal design centering, tolerancing, and tuning problem' KP Halemane, IE Grossmann Circuits and Systems, IEEE Transactions on 28 (2), 163-164					4	1981
<input type="checkbox"/>	Studies in the optimal design of flexible chemical plants. KP Halemane Dissertation Abstracts International Part B: Science and Engineering(DISS ...					3	1982
<input type="checkbox"/>	Selection of decision and torn variables in process design computation KP Halemane, IE Grossmann Design Research Center, Carnegie Mellon University					3	1982
<input type="checkbox"/>	Optimal Process Design Under Uncertainty. KP Halemane, IE Grossmann					1	1987
<input type="checkbox"/>	Symmetric primal dual simplex pivoting decision strategy (spdspds) for linear programming KP Halemane arXiv preprint arXiv:1405.6902						2014
<input type="checkbox"/>	Academic Performance Evaluation of Students - Ubiquitous System Analyzed : Letter Grading System is fundamentally/inherently Unfair by its very Design and requires a complete re-design : The Problem is not Grade Inflation KP Halemane Partridge (Random House) India						2014
<input type="checkbox"/>	Academic Performance Evaluation of Students - Ubiquitous System Grade Inflation KP Halemane CreateSpace (Amazon)						
<input type="checkbox"/>	SYSTEM defined - KpH 19-AUG-2009 KP Halemane https://archive.org/details/SYSTEM-defined_KpH19aug2009						2009
<input type="checkbox"/>	Vision-20/20_NITK 06-Aug-2004 KP Halemane https://archive.org/details/KpH-Vision_20-20_NITK_06-Aug-2004						2004
<input type="checkbox"/>	Symmetric Primal Dual Simplex Algorithm For Linear Programming KP Halemane K.R.E.C. Research Bulletin (ISSN-0971-3603) 9 (1), 16-26						2000
<input type="checkbox"/>	System Study of Procedure Designed to Finalize Marks in ReValuation of University Examination Papers KP Halemane https://archive.org/details...						1997
<input type="checkbox"/>	A Perpetual Calendar on a Page KP Halemane https://archive.org/details/KpH-Calendar						1966

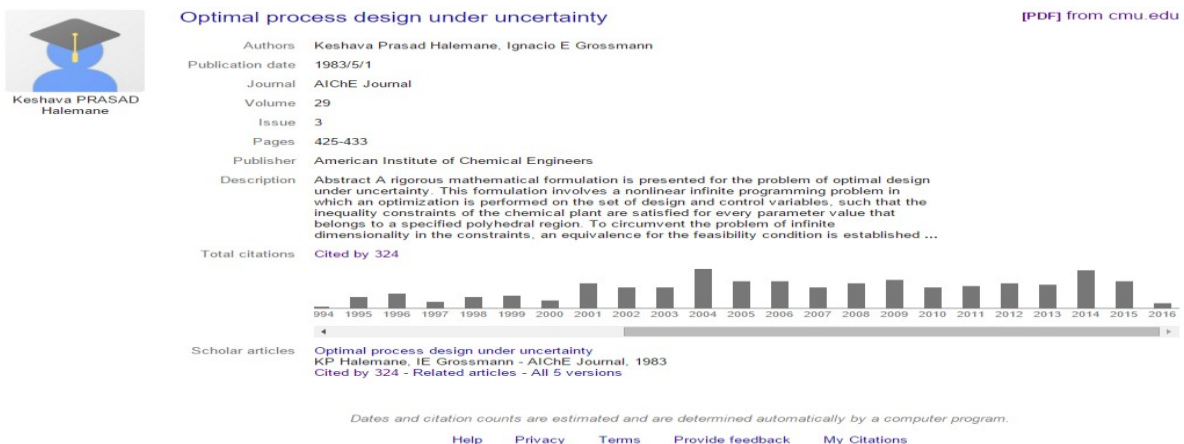
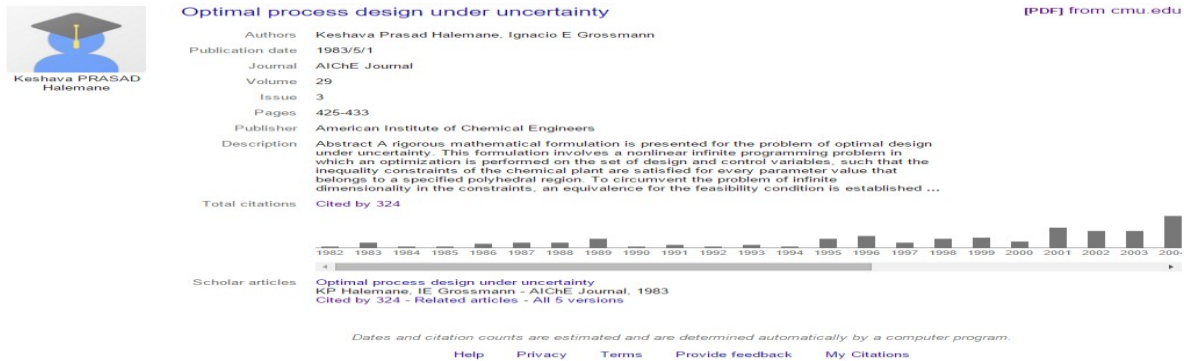
[Show more](#)

Dates and citation counts are estimated and are determined automatically by a computer program.

[Help](#) [Privacy](#) [Terms](#) [Provide feedback](#) [My Citations](#)

13. Futuristic Research with Long Gestation/Incubation Period:

http://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=CzDpUXoAAAAJ&citation_for_view=CzDpUXoAAAAJ:u5HHmVD_uO8C



82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
01	04	01	01	03	04	04	07	01	02	01	02	01	07	09	04	07	08	05	16	13	13	25	17	17	13	16	18	13	14	16	15	24	17

The trend in the citations shown above indicate that it took almost *two decades of gestation/incubation period* in order for this research work to gain its due recognition, and shows a significant (long term) impact. This paper did indeed receive excellent comments from reviewers indicating its *significant impact - both long term and short term - and of lasting value to the field/profession*.

Similar is the case with the work on "APES-USA" - the conceptual seed idea was generated in 2002 whereas the first version of the book was published in 2012; and a second revised version is currently being published in 2014 by *Partridge (India) Publishing - A Penguin Random House Company*. The ideas therein are yet to catch up among the academic community.

In case of the research work on "*spdspds*" - the first paper containing the conceptual seed idea is dated 2000 whereas the second paper is dated 2011 which reports some further development based on the work of Muthuvel I Murugan, a M.Tech.(2005) student; although the Ph.D. research scholar who was later assigned with the work of continuing the same ended up withdrawing prematurely. This research work is a *precursor for a future epochal break-through* in LP Technology.

14. Honours and Awards:

- * *Fellow Member*, Institution of Engineers (India); 1993.
- * Citation in *Marquis Who's Who in the World*; 1998.
- * Citation in *American Men and Women of Science*; 1994.
- * Citation in *Men-Of-Achievements* by the International Biographical Society, Cambridge, England; 1987-Volume.
- * *Best Paper* (Computer Aided Design Session), Second Annual ChEGSA Symposium, CMU, USA; 1980.
- * *BEST ENGINEERING STUDENT OF THE STATE AWARD* and *GOLD-MEDAL*; for being the *TOPMOST* among the *FIRST-RANK-Holders* in all the Universities of Karnataka State; from Government of Karnataka State, India; 1972.
- * *FIRST RANK* (Number ONE standing) in the Univ of Mysore, in Third, Fourth, and Fifth (Final) year B.E. Exams; in 1970, 1971 and 1972 respectively.
- * *First Class with Distinction*, throughout my education.
- * Received *Excellent Reviews* for my Research Papers.

15. Details of sponsored R & D projects:

"Uncertainty and sensitivity analysis of the Pushover Method for RC framed structures with brick infill walls" refer to BRNS/DAE Sanction No. 2009/36/12/BRNS/190 dated 24.04.2009 for a total financial assistance of Rs.19,75,400/- during the 3-year period from 2009 to 2012.

16. Membership in Professional Societies:

<i>Instn. of Engrs. (India)</i>	:	(Life) <i>Fellow</i>	(F/101872/4; 1993)
<i>Sys. Soc. of India</i>	:	(Life) <i>Member</i>	(LM-14002; 1995)
<i>I.S.T.E.</i>	:	(Life) <i>Member</i>	(LM-12067; 1991)
<i>Sigma-Xi Honors Soc.</i>	:	<i>Member</i>	(830710284; 1982)
<i>A.I.Ch.E.</i>	:	<i>Member</i>	(080375; 1978)
<i>I.E.E.E.</i>	:	<i>Member</i>	(2124352; 1984)
<i>A.C.M.</i>	:	<i>Member</i>	(2781912; 1984)
<i>O.R.S.A. (now: INFORMS)</i>	:	<i>Member</i>	(024999; 1984)
<i>S.C.S</i>	:	<i>Member</i>	(34384; 1982)
<i>I.N.N.S.</i>	:	<i>Member</i>	(1602; 1986)
<i>S.I.A.M.</i>	:	<i>Member</i>	(20709; 1984)
<i>A.M.S.</i>	:	<i>Member</i>	(HLKSPA; 1991)

17. Administrative and Organizational Activities:

- * Chairman of NITK Employees Grievance Redressal Committee;
from 01-Aug-2011 to 30-Jan-2013.
- * Division Chairman - BSHSSMS Division, from 01-01-2009 to 2013.
- * Member of the Academic Council (VTU Nominee) of NMAMIT, Nitte.
- * Member, NITK Board of Governors, and NITK Finance Committee;
from 13-Dec-2005 to 12-Dec-2006.
- * Chairman of the Committee that framed the set of "Vision & Mission Statements" for NITK Surathkal.
- * Dean (Academic) and Chairman-BOS, NITK-Surathkal,
from 30-01-2004 to 31-03-2005 and from 18-05-2005 to 01-02-2008.
Demonstrated excellent leadership, in successfully co-ordinating all the activities associated with developing and implementing for the first time in 2004, the Credit-based Curriculum as well as the Letter Grading System based on Class Performance Distribution for the Academic Performance Evaluation of Students in all the degree programs of the Institute. It has been considered as a phenomenal achievement indeed, that in spite of several frequent changes in the administration at the top levels, and the failures of the earlier attempts over a long period of three years, Prasad has successfully lead the efforts, to motivate the NITK faculty community to work together collectively and effectively, on the most difficult task of overcoming the serious divergences of opinion among the faculty on several critical issues, to arrive at a final consensus/convergence, that resulted in the finalized (with approval of the BOS and the Senate) set of Academic Regulations & Curriculum for all the academic programs of the Institute, that is certainly in tune with World Standards.
- * Chief Warden, NITKS Hostels,
from 14-Aug-2003 to 03-Mar-2004.
Completed the roof renovation work and initiated the renovation of kitchens, bath rooms and toilets.
- * Head of the Department (3-year rotational term),
Dept of Mathematical And Computational Sciences, KREC Surathkal;
from 01-Jan-1999 to 01-Jan-2002.
Completed the Modernization of the Computational Facilities as well as the First Floor Extension to the Computational Laboratory Building; initiated the plan and proposal for the Second Floor.
Revision of the Admission Criteria and the Curriculum for MCA as well as the M.Tech.(SACA) programs.
- * Curriculum and Syllabus Revision for M.Tech(SACA) and MCA,
Dept of MACS, KREC Surathkal; 1991-present.
- * Revision and Refinement of PG Admission Procedures in the
Department of Mathematical And Computational Sciences,
KREC Surathkal; 1996-98.
- * Jointly organized the Summer Short Courses in Advanced
Process Systems Engineering, held in the University of
Maryland, every summer; 1987-89.
- * Solely responsible in organizing Monthly Technical Seminars
in AT&T Bell Labs, International Planning Department and
Advanced Decision Support Systems Department; 1984-86.
- * Organized and Taught the Process Operator Training Courses,
for Ammonia Plant Process Operators in MCF; 1973-74.

18. Professional Profile: Attached herewith (next 3 pages)

- PROFESSIONAL PROFILE -

EXCELLENT and *VERSATILE* are two adjectives most befitting and true-to-the-facts, in introducing Dr. Keshava PRASAD Halemane, as an Engineer/Scientist/Professional, and even simply as an individual.

Prasad has *distinctly outstanding academic credentials*. He has been ranked as the *TOPMOST* among the group in every examination/evaluation at every level, throughout his college education. During his studies in KREC-Surathkal, he *brought laurels* to the Institute, by his *uniquely outstanding academic performance*, securing *FIRST RANK*, and also being the proud recipient of the then *most coveted* Karnataka State *GOLD MEDAL* for the *Best Engineering Student of Karnataka State (Topmost among the FIRST-RANK-Holders in all the Universities of the State)* in the year 1972. As an *alumnus* and also as a *faculty*, he says that he has *great stakes* in the future of his *Alma-Mater* NITK-Surathkal, and has always been *committed* to contribute his best towards the progress of this Institute.

After completing his B.E. degree course in Chemical Engineering in K.R.E.C. in 1972, he proceeded to I.I.T. Madras to pursue his P.G. studies. However, in Aug-1973, his father's illness forced him to take up an employment in Mangalore Chemicals and Fertilizers Limited, near his home-town. His dream of higher studies materialized only after one of his younger brothers got employment to support the family.

Prasad worked as a Process Engineer in MCF during the period Aug-1973 to Dec-1977, and gained a strong industrial experience, before he took off for his higher studies and research work in Carnegie-Mellon University, Pittsburgh, PA, USA, in Jan-1978.

In CMU, Prasad performed exceptionally well in the P.G. Qualifying Examination, and was declared to be the *TOPMOST* in the list at Ph.D. level; within a short time of only four months, that too after a long break of four-and-a-half years in a manufacturing industry. Again, he demonstrated his academic excellence, by securing the topmost grade point of 4.00/4.00 in every course, thus obtaining a CGPA of 4.00/4.00 in his masters and doctoral degree programs. He received his M.S. degree in 1979 and Ph.D. degree in 1982.

For his Master's degree research project, he worked on the Catalytic Synthesis of Light Olefins from CO+H₂ Feed over Cobalt based Catalysts.

Although his academic degrees are in the area of Chemical Engineering, his doctoral research work has been highly inter-disciplinary and directly applicable to any engineering design problems in general.

His doctoral research work deals with the application of *Systems Approach*, particularly with Operations Research (Modelling, Analysis, and Optimization) to the problems of Optimum Design of general Engineering Systems (not just Flexible Chemical Plants as the title reads; that specific title happened to be only incidental). He developed a *rational and systematic methodology* and provided a sound *conceptual frame-work*, for the problem formulation as well as for the development of an efficient computational solution strategy, for the *Optimum Design of General Engineering Systems that accounts for the Uncertainties in Parameter Values*.

Through his doctoral research work, he has efficiently revitalized the research investigations in the area of "*Optimum Design of Engineering Systems Under Uncertainty*", by his novel initiation in *opening up an entirely new approach* which has now been *well recognized and followed*, as the *most rational and systematic conceptual advancement* in that field, as acknowledged clearly by his own Ph.D. Thesis Advisor Prof. Ignacio E. Grossmann in his reference letter of 08-Sep-1983, wherein he also added that he considered himself "*most fortunate*" for having had Prasad as his graduate student.

K e s h a v a P R A S A D H a l e m a n e

National Institute of Technology Karnataka Surathkal

His *research publications*, in refereed international journals, have received very high appraisals from the reviewers/referees, as having the *greatest potential impact*, of both *immediate and lasting value*. Of course, Prasad believes in “*quality*” rather than “*quantity*”, and this is reflected in his research output as well.

His paper “*Optimal Process Design Under Uncertainty*” (AIChE J., Vol.29, No.3, pp.425-433, May-1983) has been well recognized indeed as a *classic*, with more than 324 citations.

His initial industrial experience in MCF gave him the needed exposure for him to *develop and maintain the right world perspective (down-to-earth practical and pragmatic approach)* to the *real world problems*, while addressing R & D issues.

His contributions in Industrial Research and Development work, in Westinghouse R & D Center as well as in AT&T Bell Labs, illustrate the *extreme versatility* of his *competence* in several distinctly different areas.

In late 1989, he returned to India, taking up an employment in Centre for AI and Robotics, DRDO, Bangalore.

In Aug-1991, Prasad joined KREC-Surathkal, his *Alma-Mater*, as Professor of Systems Analysis and Computer Applications, in the Department of Mathematical And Computational Sciences, where he continues to teach the M.Tech.(SACA) courses. Before coming to KREC/NITK-Surathkal as a Professor in Aug-1991, he had already gained a *broad world perspective*, through his *diverse experiences in different organizations*, both within as well as outside India; in Academia (USA and India) as well as in R & D Organizations (corporate America as well as DRDO-GOI); and even in a manufacturing organization.

It is very rare indeed, to find someone who is *extremely versatile*, covering a very wide spectrum of varied fields, and who *also excels oneself with an exceptionally high level of competence* in any chosen area.

His work experience covers the following areas -

Optimization under Uncertainty; Computational Systems Science & Engineering; *Systems Studies - Modeling*; Analysis; *Design*; Simulation; Control; *Optimization*; Science of *decision making*;

He has shown convincingly, that he is *very quick and efficient in learning new things and attaining expertise in new areas*; and has felt very comfortable in dealing with the variety of *diverse work situations* that he has gone through, being *distinctly outstanding* among his colleagues and co-workers in every organization that he worked for. Prasad has demonstrated excellent leadership in every situation, and has been singularly conspicuous among his colleagues.

Prasad has the distinction of being honored with a citation by the International Biographical Society, Cambridge, England, in their Men of Achievement 1987-Volume. He was elected as a Fellow Member of the Institution of Engineers (India) in 1993. In 1994 he was honored with a citation in American Men and Women of Science. In 1998 he was honored with a citation in Marquis Who's Who in the World.

Since August 1991 Prasad has been working in KREC-Surathkal (recently renamed as NITK-Surathkal) as a Professor, and has served in various administrative capacities : as *HoD*, MACS Dept for the three year term from 01-Jan-1999 to 01-Jan-2002; as the *Chief Warden of NITKS Hostels* for the period from 14-08-2003 to

03-03-2004; as *Dean (Academic) & Chairman (Board of Studies)* from 30-01-2004 to 31-Mar-2005 and again from 18-May-2005 to 01-Feb-2008; as Member of NITK-BOG & NITK Finance Committee from 13-Dec-2005 to 12-Dec-2006; as Division Chairperson (BSHSSMS Division of NITK) from 01-Jan-2009 to 2013; and as Chairman of the Institute Grievance Redressal Committee from 01-Aug-2011 to 30-Jan-2013.

Prasad believes that an *Academic Curriculum* is for an *Educational System*, as the *Governing Constitution* is for any *National Governance*. Also, an *Evaluation System* is to an *Academic Curriculum*, as the *Judicial System* is to any *Governing Constitution*. In fact, *evaluation* is a very critical step/phase in general, in any human intellectual endeavor. The entire evaluation system (including the *Regulations*) comprising of the *Policies, Procedures, Mechanisms, Guidelines*, etc., must be designed, developed, evolved, implemented and adhered to, in order to meet the most fundamental/basic quality characteristics of being: *fair/justifiable, objective/unbiased, reliable/precise, robust/resilient, while also being flexible/responsive and transparent*. It is equally essential to maintain appropriate level of *confidentiality* in terms of certain specific details, in order to achieve the above mentioned quality characteristics.

He has *demonstrated excellent leadership* in motivating the *faculty community* to *work together collectively and effectively* on various issues of concern to the institute on various occasions. For example, as the *Dean (Academic)* and the *Chairman of the Board of Studies of NITK*, he co-ordinated the activities associated with the *refinement of Admission Procedures*, and also on the *design of the Academic Regulations* as well as the *Curriculum Structure* for all the *UG, PG and Doctoral-Research degree programs of the Institute* to arrive at a final *consensus/convergence* that resulted in the finalized set of *Academic Regulations & Curriculum*, for the academic programs of NITK, that is certainly in tune with *World Standards*. This has been considered as a *phenomenal achievement* indeed, considering the *remarkably short time period* (of only *six months*, Feb-Jul 2004, for the first version; and again just *two months*, Jun-Jul 2005, for a revised version) and the fact that there have been *several frequent changes* in the *administration* at the *top levels* (i.e. *Director as well as Chairman-BOG*) in addition to the *most difficult task of overcoming the inherent divergences of opinion* among the *faculty* on several *critical issues*. He served as the *Dean (Academic Affairs)* for the four year term from 2004 to 2008, with five different *Directors* during that same period.

His basic interests cover a broad spectrum of various fields of human endeavour, especially wherever some elements of *creativity/novelty/beauty* can be imagined, and limited only by the natural constraint of time.

Prasad firmly believes in achieving *Organizational Excellence* through the process of *Evolutionary Refinement*, by a synergistic association of *individual interests* with *institutional goals*. This requires appropriate leadership with a *far-sighted ideal vision* (jnaana shakti), a *deep concern* (icchaa shakti) and a *firm commitment* (kriyaa shakti). Such a *leadership* is possible only with a *broad perspective* and a *forthright approach*, with an ability to reach-out (*communicate*), touch (*convince/motivate*) and move (*commit/get-the-work-done*); while at the same time be reachable (*approachable*), touched (*sensitive*) and moved (*responsive*); ensuring *transparency* and a *sense-of-belonging* among everyone of the participants. That requires, not just any other administrator, but a *“just” leader indeed, paying credit wherever it is due avoiding misplacement, without fear or favour, not influenced by prejudices but banking on maturity and wisdom*. Then again, Prasad believes that *maturity and wisdom* must be assessed neither by the *chronological age* nor by the *length of experience*, but certainly by the *intellectual caliber of the thought processes involved in decision-making*.

Prasad has demonstrated *excellent leadership* in every situation, and has been *singularly conspicuous* among his colleagues, with his unique contributions to *Problem-Solving/Trouble-Shooting and Decision-Making*.

Above all these, Prasad is endowed with a rare combination of an *extremely sharp intellect (depth-in-thinking)* along with a *highly sensible mind (balance-in-judgement)* and a *humane heart (breadth-in-feelings)*. Also, he is noted for his *integrity of character and pleasant disposition*. He has a *special talent for TEACHING* in its *broadest sense*, and has been an *exemplary (inspiring) teacher* indeed.

19. Statement as to why I should be selected for the post:

COMMITMENT AS AN ALUMNUS-FACULTY:

I am a *proud alumnus* of KREC/NITK-Surathkal, having studied in KREC for my B.E. degree during the period 1967-72. During my studies in KREC-Surathkal, *I brought laurels* to the Institute, by my *uniquely outstanding academic performance*, securing *FIRST RANK*, and being the proud recipient of the then *most coveted* Karnataka State *GOLD MEDAL* for the *Best Engineering Student of Karnataka State (Topmost among the FIRST-RANK-Holders in all the Universities of the State)* in the year 1972. As an *alumnus* and also as a *faculty*, I have *great stakes* in the future of my *Alma-Mater* NITK-Surathkal, and have always been *committed* to contribute my best towards the progress of the Institute.

BROAD WORLD PERSPECTIVE:

Before coming to KREC/NITK-Surathkal as a Professor in Aug-1991, I have had already gained a *broad world perspective*, through my *diverse experiences in different organizations*, both within as well as outside India; in Academia (USA and India) as well as in R & D Organizations (corporate America as well as DRDO-GOI); and even in a manufacturing organization.

UNIQUE ADVANTAGE:

During the last 20+ years, I have been working in KREC/NITK-Surathkal, as a Professor, and have served in various administrative capacities, as an *HOD*, as the *Chief-Warden* of the NITKS-Hostels, as the *Dean* (Academic), as Member of NITK BOG and NITK Finance Committee, as Chairperson of the BSHSSMS Division of NITK, and as the Chairman of the Institute Level Grievance Redressal Committee. Thus I have gained the *unique advantage of knowing the inside details of the system* in NITK-Surathkal: its *people*, their *sensitivities* and *dynamics*, *without getting myself unduly influenced by the possible prevailing prejudices or populism*. Also, I am one of the *senior-most faculty among the NITK faculty*.

PHENOMENAL ACHIEVEMENTS AT NITK:

As the Dean (Academic) and the Chairman, Board of Studies, of NITK, I have *demonstrated excellent leadership* in *motivating the faculty community to work together collectively and effectively*, to arrive at a final *consensus/convergence* that resulted in the finalized set of *Academic Regulations & Curriculum*, for the academic programs of NITK, that is certainly in tune with *World Standards*. This has been considered as a *phenomenal achievement* indeed, considering the *remarkably short time period* (of only six months, Feb-Jul 2004, for the first version; and again just two months, Jun-Jul 2005, for a revised version) and the fact that there have been *several frequent changes* in the *administration* at the *top levels*, in addition to the *most difficult task of overcoming the inherent divergences of opinion among the faculty on several critical issues*. Recently, I proposed "*a novel methodology for faculty performance evaluation to encourage individual excellence*" which has been readily accepted and implemented successfully in NITK-Surathkal.

CLEAR and FAR-SIGHTED IDEAL VISION FOR THE INSTITUTE:

My "*Vision-20/20-NITK*" (http://oldsite.nitk.ac.in/images/pdf/kph_v.pdf) presentation to the NITK faculty community on 06-Aug-2004, has been founded on the *mental maturity* and the *intellectual wisdom* gained through the continuous process of *in-depth thinking* and *intense learning* from my *diverse experiences and exposures*, with *due attention-to-detail* while not missing the *overall perspective vision*. It provides an *ideal value-based holistic approach* to administration/management, that can *inspire creativity* and *commitment* in working towards *Academic and Professional Excellence*. I worked as the chairman of the committee that framed the set of Vision and Mission Statements for NITK Surathkal.

CONCRETE and PRAGMATIC PLANS FOR THE INSTITUTE:

For the *realization* of the above *ideal dream vision*, it is necessary to have *concrete and pragmatic plans* to guarantee that the *administration be fair in all aspects*, by being *transparent, participative, and responsive*, to *develop and maintain a collegiate work atmosphere*, encouraging a *sense-of-belonging* in everyone, while each one must be *responsible and accountable* for the *decisions and actions* both at *one's own level* as well as *collectively*. Such a *work environment* is required in order to *attract and retain high quality faculty*.

A LEADER WITH CONCERN, VISION, and COMMITTED-RESOLVE :

I believe that every well intentioned and well planned *sincere collective effort* towards progress along the path of *Academic and Professional Excellence* is certainly an *ideal* that is worth a consideration, and I shall certainly be fully and firmly *committed* to work towards that *ideal*, with a *firm resolve*.
